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ABSTRACT

To arrive at the key components of a comprehensive school-to-work transition strategy, researchers for the study reported here reviewed the literature in the field of school-to-work transition and also consulted with numerous experts in the field. To determine how many states have adopted the components of comprehensive strategies, the researchers conducted a telephone survey of all 50 states and the District of Columbia, contacting in each state the offices of the governor and the chief school officer. Four states that had formally adopted a comprehensive strategy were identified (Florida, Oregon, Tennessee, and Wisconsin), and a school district was visited in each of these states. The four states were undertaking action on several interrelated components of a comprehensive school-to-work transition strategy, namely: processes for developing academic and occupational competencies, career education and development, extensive links between school systems and employers, and meaningful workplace experiences. State and local officials and educators cited numerous obstacles, including lack of information on what other jurisdictions have done, employer reluctance to provide workplace experiences, parental aversion to their children's participation, and educator belief that targeting provisions in some federal categorical grant programs limit use of those funds. It is concluded that the federal government could help by disseminating evaluation results and other information on the lessons learned in various state and local initiatives and by providing advice on ways that schools could use existing categorical grant money. (Appendixes include the objectives, scope, and methodology of the study and additional details on district, school-level, and state-level actions.) (YLB)

United States General Accounting Office

GAO

Report to Congressional Requesters

September 1993

ED 361 601

TRANSITION FROM SCHOOL TO WORK

States Are Developing New Strategies to Prepare Students for Jobs

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United States
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Washington, D.C. 20548

Human Resources Division

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September 7, 1993

The Honorable David R. Obey
Chairman, Joint Economic Committee

The Honorable Jeff Bingaman
Chairman, Subcommittee on Technology
and National Security
Joint Economic Committee
United States Congress

Many youth are ill prepared for work when they leave high school, often with long-term negative consequences. For example, about 30 percent of youth aged 16 to 24 lack the skills for entry-level employment,[1] and 50 percent of adults in their late twenties have not found a steady job.[2] This situation may be explained, in part, by poor academic preparation, limited career guidance, inadequate workplace experiences, and other impediments to efficient school-to-work transitions.

Experts often find school-to-work transitions in the United States to be lacking in comparison with some of our principal foreign competitors. The experience of the former West Germany is often cited, where roughly two-thirds of all youth participate in apprenticeships that provide an introduction to the workplace, teach occupational skills and related academic skills, and help facilitate the transition to work.

How to achieve better transitions to the workplace is the subject of much debate. In response to these concerns, the Joint Economic Committee asked GAO to study the school-to-work transition problem in the United States. The purpose of this report is to provide an overview of the status of comprehensive school-to-work transition strategies at the state level, and identify possible federal policy options for assisting such strategies. (See app. I for detailed study objectives.)

Results in Brief

Our analysis showed that even though American high schools direct most of their resources toward preparing students for college, few incoming freshmen—about 15 percent—go on to graduate and then obtain a 4-year

[1]Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries (GAO/HRD-90-88, May 11, 1990), pp. 2-3.

[2]Paul Osterman and Maria Ianozzi, Youth Apprenticeships and School-to-Work Transition: Current Knowledge and Legislative Strategy, National Center on the Educational Quality of the Workforce (Philadelphia: 1993), p. 4.

college degree within 6 years of high school graduation.[3] A substantial number of the remaining 85 percent wander between different educational and employment experiences, many seemingly ill prepared for the workplace.[4]

Accordingly, some public officials and educators are considering comprehensive school-to-work transition strategies to better prepare high school students for workplace requirements. While no state had fully implemented such a strategy at the time of our survey, four states—Florida, Oregon, Tennessee, and Wisconsin—have enacted statutory provisions requiring state officials to develop and implement strategies. The four states are now undertaking actions on the following interrelated components of a comprehensive school-to-work transition strategy:

- processes for developing academic and occupational competencies,[5]
- career education and development,
- extensive links between school systems and employers, and
- meaningful workplace experiences.

Each of the four states has taken a number of steps. For example, Tennessee has a Jobs for Tennessee's Graduates program to improve the work habits and employability skills of high school seniors who are most at risk of dropping out. Florida has an innovative career education and development component that includes having students develop a forward-looking career plan. In Portland, Oregon, officials have hired for their Roosevelt Renaissance school-to-work transition program an individual with private-sector business experience to establish links with the employer community, and Wisconsin has a youth apprenticeship program to provide students new forms of meaningful workplace experiences and occupational skills.

[3]Developed by GAO from U.S. Department of Education, National Center for Education Statistics survey, High School and Beyond: 1980 Cohort (1986 follow-up), and the Center's Digest of Education Statistics (1992 edition), p. 49.

[4]See A Nation At Risk, The National Commission on Excellence in Education (Washington, D.C.: 1983), pp. 8-11; National Center on Education and the Economy, the Commission on the Skills of the American Workforce, America's Choice: High Skills or Low Wages! (Washington, D.C.: 1990), pp. 1-3; Gene Bottoms, et al., Making High Schools Work (Atlanta: 1992), p. 1.

[5]Identifying "processes for developing academic and occupational competencies" as a component of a comprehensive school-to-work transition strategy does not mean that education reform serves only school-to-work transition goals. Indeed, one could view education reform as an umbrella concept encompassing many goals, including improved school-to-work transition. For a discussion of education reform efforts in the United States, see our report, Systemwide Education Reform: Federal Leadership Could Facilitate District-Level Efforts (GAO/HRD-93-97, Apr. 30, 1993).

State and local officials, educators, and others we interviewed cited numerous obstacles in their school-to-work transition efforts. These include a lack of information on what other jurisdictions have done, employer reluctance to provide workplace experiences, parental aversion to their children's participation in such experiences, and educator belief that targeting provisions in some federal categorical grant programs limit the use of those funds in school-to-work transition initiatives.

The federal government could help by disseminating evaluation and other information on the lessons learned in various state and local school-to-work transition initiatives. The government also could provide advice on ways that schools might use existing categorical grant moneys, perhaps through waivers (if authorized in law), in school-to-work efforts.

Background

Recent studies on education and economic competitiveness,[6] including our previous work on the subject,[7] have concluded that the goals of secondary schools should include having all youth possess good academic skills,[8] marketable occupational skills, and appropriate workplace behaviors. We reported that the United States is lagging behind some of its primary international economic competitors—Japan, the former West Germany, Sweden, and England—in having students acquire academic and occupational skills that employers need and guiding students' transition from school to work.[9]

These foreign countries, unlike the United States, have national policies that emphasize preparing youth for employment. Specific approaches vary by country, but typically schools and employers work together to facilitate youths' work force entry. In Japan, for example, high school seniors get jobs almost exclusively through school-employer linkages, with employers basing hiring decisions on schools' recommendations. In the former West Germany, as noted earlier, about two-thirds of all youth participate in apprenticeships.

[6]What Work Requires of Schools: A SCANS Report for America 2000, U.S. Department of Labor, the Secretary's Commission on Achieving Necessary Skills (Washington, D.C.: 1991), pp. 4-5; America's Choice: High Skills or Low Wages!, pp. 6, 11-12; Making High Schools Work, p. 7.

[7]Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries, p. 5.

[8]This is the goal of education reform.

[9]Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries, pp. 2-3.

The United States' secondary education system, on the other hand, has evolved into a multitrack system that, according to many experts, increasingly does not serve youth effectively. The best students are directed into the academic, college-prep track, while the rest are sorted into either a vocational track attracting relatively few students or a typically unchallenging general track that is often cited as preparing students for nothing in particular.

U.S. secondary schools generally direct most of their resources toward preparing students for college. However, our analysis of U.S. Department of Education data showed that few youth—about 15 percent of incoming high school freshmen—complete a 4-year degree within 6 years of the end of that group's high school education. This reflects the fact that roughly 20 percent of incoming high school freshmen drop out before graduating, and only about 1 in 5 of the remaining students ends up with a 4-year college degree within 6 years of high school graduation.

In a previous work we noted that, in the past, even though many youth in the United States had few skills and limited language and computation skills, a substantial number of youth could strive for and eventually get entry-level positions in semiskilled, higher wage manufacturing occupations. Today, these kinds of jobs are increasingly being phased out; getting jobs with high-wage potential now requires higher entry-level skills. In addition, employers want employees who are versatile and able to adapt to changing conditions not only by learning new skills but also by changing their roles in the workplace—by working in teams, sharing management responsibilities, and solving problems.[10]

The inadequate preparation of young workers has both individual and social costs. The unprepared individual forgoes considerable earnings over a lifetime while contributing to lagging national productivity growth and increasing social welfare costs.[11]

Current federal grant programs supporting secondary instruction were not established with the goals of aiding comprehensive school-to-work transition strategies at the state and local levels. The federal programs are highly targeted, mostly on specific populations of students—such as the poor, the disabled, and those with limited English proficiency—and

[10]Labor Issues (GAO/OCG-93-19TR, Dec. 1992).

[11]Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries, p. 11.

vocational programs. The current administration, however, has recently proposed funding for comprehensive school-to-work transition initiatives.

In August 1993, as we were completing work on this study, the administration submitted to the Congress draft legislation, introduced as H.R. 2884 and S. 1361, the "School-to-Work Opportunities Act of 1993." As currently drafted, the bills include provisions that would authorize development grants to support state efforts in designing school-to-work transition strategies, implementation grants for states ready to begin operation of their strategies, and waivers of certain statutory and regulatory provisions in federal job training and education programs that may impede school-to-work transition efforts. In addition, the bill would authorize support for some grants to local communities.

Scope and Methodology

To arrive at the key components of a comprehensive school-to-work transition strategy, we reviewed the literature in the field of school-to-work transition, including reports of the Secretary of Labor's Commission on Achieving Necessary Skills (the SCANS Commission),[12] the National Center on Education and the Economy,[13] the Southern Regional Education Board,[14] and prior GAO work.[15] We also consulted with numerous experts in the field.

To determine how many states have adopted the components of comprehensive strategies, we conducted a telephone survey of all 50 states and the District of Columbia, contacting in each state the offices of the governor and the chief school officer. Based on that survey, we identified four states that had formally adopted the components of a comprehensive strategy—Florida, Oregon, Tennessee, and Wisconsin. We visited these four states, and in each state we visited a school district recommended by state officials to gain an understanding about how state and local officials are implementing the strategies. We also visited Rochester, New York, because our expert consultants identified it as having a model comprehensive strategy. (App. I provides additional details on our scope and methodology.)

[12]What Work Requires of Schools: A SCANS Report for America 2000.

[13]America's Choice: High Skills or Low Wages!

[14]Making High Schools Work.

[15]Transition from School to Work: Linking Education and Worksite Training (GAO/HRD-91-105, Aug. 2, 1991) and Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries.

We did our work between November 1992 and May 1993 in accordance with generally accepted government auditing standards.

Sound Strategies Require a Comprehensive Approach

Much has been written about the need for better school-to-work transition to make high school graduates more employable and improve the competitiveness of the American economy. Frequently, however, analyses of the problem are too limited, addressing only a particular issue[16] or a subset of the high school student population.[17] For example, a study may focus on improving the academic skills and work competencies of noncollege-bound youth.

Experts indicate that one problem with such narrow analyses is that they fail to recognize the challenge of providing sound academic skills and work competencies to the entire student population. Another problem is that such analyses do not sufficiently recognize that providing skills and competencies alone is insufficient for better school-to-work transition. Writers on the subject believe that to prepare the nation's youth for the work world, all students need timely career education and development that goes beyond traditional career counseling. This would involve incorporating work world examples and problems into classroom discussions and activities.

Many observers believe that it also would be important to supplement such classroom actions with meaningful experiences in actual workplace environments through such arrangements as internships, cooperative education programs, and youth apprenticeships.[18] Further, in designing and carrying out actions to prepare students for the world of work, it is important to have strong links between schools and employers.[19] Examples of such links are employer participation on schools' policy and advisory boards, to inform the schools of workplace skills and competency needs; employer activities in the classroom, to teach or illustrate the relevance of classroom lessons to the work world; and teacher internships in industry, to help teachers learn the skills and

[16]Robert I. Lerman and Hillard Pouncy, "The Compelling Case for Youth Apprenticeships," The Public Interest (Fall 1990), pp. 62-77.

[17]The William T. Grant Foundation Commission on Work, Family and Citizenship, The Forgotten Half: Non-College Youth in America (Washington, D.C.: 1988), pp. 1-2.

[18]Thomas Bailey and Donna Merritt, School-to-Work Transition and Youth Apprenticeship in the United States (New York: 1992), pp. 16-23.

[19]Transition From School to Work: Linking Education and Worksite Training, p. 4.

knowledge required in work settings. Such links help keep the curriculum relevant to the workplace.

Based on our literature reviews and discussions with experts, a comprehensive school-to-work transition strategy would encompass the following interrelated components:

- processes for developing the academic and occupational competencies of all students,
- career education and development for all students,
- extensive links between schools and employers, and
- meaningful workplace experiences for all students.

Limited Implementation in Four States

While officials and citizens in many states are beginning to develop position papers or proposals to solve school-to-work transition problems, only four states have moved to the stage of adopting, in legislation, the four components of a comprehensive school-to-work transition strategy that we identified. In those four states, implementation progress has been limited, partly because of the newness of the strategies. The states with comprehensive school-to-work transition strategies are Florida, Oregon, Tennessee, and Wisconsin, each of which passed legislation during the 1991 to 1992 period.

Representatives of nine other states told us that they are considering adopting such strategies. Three states have bills pending in their legislatures proposing such strategies (Michigan, Minnesota, and Washington), another has submitted a plan to the state Board of Regents for approval (New York), three are developing a plan for submission to the legislature (California, Rhode Island, and Vermont), and two have enacted legislation mandating the development of a plan (Arkansas and New Jersey).

In the four states that have adopted the components of a comprehensive strategy, implementation has just gotten under way and considerable uncertainties remain. The most intense activity has been in developing the academic and occupational competencies of all students (first component). Most of the new statewide goals, standards, implementation activity, and reporting have been in this area. The states, for example, are placing heavy emphasis on reducing drop-out rates and improving the academic performance of students.

For example, Jobs for Tennessee's Graduates, a program for seniors who are most at risk of dropping out, is part of the state's strategy for raising the overall level of academic performance and work preparation of the state's youth. Seniors are trained throughout the year in competencies that enhance their personal work traits and employability skills; following high school graduation, specialists assist graduates in searching for and finding jobs. Oregon is one of several states developing student graduation standards. The state plans to issue Certificates of Advanced Mastery to those students who can show they meet these standards.

Progress is more limited on the other three components of the states' comprehensive school-to-work transition strategies. For example, Florida is the only state of the four with a comprehensive career education, guidance, and development program (second component). As part of that program, in the 1991-92 school year, about 64 percent of Florida's eighth graders completed career plans that are designed to help students set career goals and plan a curriculum that will help them achieve these goals. We note, though, that Florida's program predates the state's comprehensive school-to-work transition strategy, and local school districts are not required to adopt it. The other three states are just developing pilot or demonstration programs.

As for establishing links between schools and employers (third component), only Oregon and Wisconsin have established joint state-business-labor bodies to systematically coordinate and monitor school-to-work transition efforts. Florida and Tennessee, however, indicated that they solicit employer views on education and work force matters. Concerning providing meaningful workplace experiences to students (fourth component), such new activities as youth apprenticeship programs are just starting, and on a very limited basis at that. For example, Florida and Wisconsin each had their first 20 youth apprentices in the 1992-93 school year. Oregon and Tennessee will pilot their first youth apprenticeships in the 1993-94 school year. Officials in all of the states we visited, as well as in Rochester, New York, told us that they were in the process of expanding these programs to apply to more students.

Additional details on state-level actions are contained in appendixes II through V.

Limited Implementation at the School District Level

Although we visited school districts that the states identified as exemplary, these districts, like the states themselves, are in the initial

stages of implementing their comprehensive school-to-work transition strategies. Nevertheless, we observed several characteristics of these districts.

The principal focus of the districts is on implementing the first component: a process to provide and demonstrate good academic and occupational competencies. Progress to date on the other components is largely in the planning stage.

Only one of the districts, Seminole County School District in Florida, has a broad-based career education, guidance, and counseling program integrated into its curriculum to reach all youth (second component). Two of its elements are the development of self- and career awareness for students in kindergarten through fifth grade and the development of career goals by eighth grade.

Although all districts have traditional employer input into vocational curriculum, implementation of business links in other areas (third component) is, by-and-large, unsystematic. Contacts include business participation on advisory committees, teacher internships in industry, and private-sector employees teaching science and tutoring in the schools. To help establish links between the school and the business community, the Roosevelt Renaissance program in Portland, Oregon, has hired an individual who was formerly employed in private-sector business. The situation in Rochester, New York, is unique in this regard because the business community takes an active leadership role in establishing strong, coordinated ties with the city schools.

All of the districts have some form of workplace exposure programs (fourth component) to help orient youth to the world of work and allow them to see the relevance of their education. However, the districts generally focus their efforts on vocational students and often on those they think to be at risk of dropping out. Furthermore, it is not clear that workplace experiences are structured to ensure transition to jobs with career potential. All the districts we visited were in the process of expanding these programs to apply to all students.

Additional details on district and school-level actions are contained in appendixes II through VI.

Many Obstacles Exist

The state and local officials, teachers, business and labor representatives, and experts we talked with identified several obstacles encountered in developing, implementing, and accomplishing the goals of their school-to-work transition initiatives. Following are some of the obstacles mentioned:

- Some labor laws make it difficult for high school students to participate in certain work-based experiences, such as worker compensation provisions excluding underage students.
- Some detailed state regulations lessen flexibility at the local level. For example, a Tennessee Board of Education regulation required that all schools teach 5 hours of math to all students each week, which made it difficult for the state's schools to tailor programs to students' individual needs.
- Some federal grant program targeting provisions, in the opinion of some educators, limit using existing grant moneys in school-to-work transition efforts encompassing all students. We were advised in one jurisdiction that the eligibility requirements of the Job Training Partnership Act (JTPA) make it difficult to use JTPA funds in that jurisdiction's comprehensive school-to-work transition effort.
- State funding is uncertain for state and local initiatives, including funding for full-time staff dedicated to school-to-work transition initiatives.
- Some employers, especially small business employers, are reluctant to offer workplace opportunities to youth because of the extra management time and costs that would be incurred for training and supervising the youth and the additional cost to employers for insurance.
- Some traditional university entrance requirements may not accept the credits of some new academic classes oriented to the work world.
- School officials and teachers may have few contacts in the business world, making it difficult to establish links with employers.
- School scheduling practices can be institutionally rigid, making it difficult to schedule multihour, interdisciplinary classes that are sometimes seen as needed in a comprehensive school-to-work transition strategy.
- Information on "lessons learned" is not often collected or available on the experiences of other jurisdictions in attempting to plan and implement comprehensive school-to-work transition strategies.
- Many parents who have traditional expectations may doubt that a new approach with a strong orientation to the workplace is the best preparation for college for their own children. Some parents may perceive the new school-to-work transition programs as a form of vocational education.

- Some regional economies do not afford numerous and promising career path jobs. The available jobs may be in low-growth occupations, low-skilled and low-paying occupations, or in businesses with limited futures.

Possible Federal Actions

Overcoming these obstacles will require much effort at the state and local levels, given the responsibilities at those levels for educational matters. But the problem of inadequate school-to-work transitions is also a national problem affecting international competitiveness, and the federal government could help state and local planning and implementation efforts.

The federal government could help by collecting and disseminating information on the lessons learned in the state and local jurisdictions that initiate school-to-work transition efforts. In addition, though other countries have well-established strategies, relatively little information is available on what would work, or not work, in the U.S. setting. This is largely an uncharted area for most Americans.

However, our survey of the states showed that many jurisdictions are beginning to take actions on school-to-work transition matters. We anticipate that as more legislatures and local bodies take action, information will be developed on successful and less successful initiatives, and the federal government could play a useful role by reporting on these experiences. This would include reporting on federal and nonfederal evaluations of the experiences.

The federal government also could make it easier for state and local officials to use existing targeted grants in school-to-work transition efforts. One way of doing this would be through waivers, allowing the funds to be used in such efforts. This procedure would not necessarily undermine the goals of the affected programs, particularly if the legislation authorizing the waivers stipulated that waivers could not affect any provision relating to the basic purposes or goals of the programs.[20]

Whether federal funds spent on school-to-work transition efforts are from existing grant programs or, as envisaged in the administration's draft "School-to-Work Opportunities Act," from a new grant program, we believe that any federal investment's effect would be maximized if

[20]Such a waiver safeguard is contained in H.R. 2884 and S. 1361.

- planning and implementation grants are given only for comprehensive school-to-work transition strategies, where the emphasis is on linking plans and actions with the four components toward the goal of having all youth possess good academic skills, marketable occupational skills, and appropriate workplace behaviors and
- evaluation grants are made for studies designed to measure meaningful outcomes, such as better employment and earnings patterns.

Matters for Congressional Consideration

If the Congress wishes to support school-to-work transition strategies, it could consider encouraging the administration to disseminate information on lessons learned in various state and local initiatives. It also could encourage greater use of existing program funds in school-to-work transition strategies, including authorizing waivers to permit use of existing funds in comprehensive school-to-work transition efforts. However, for maximum effect, any funds made available should be only for comprehensive school-to-work transition efforts, and funds for evaluations should be for studies designed to measure meaningful outcomes.

Agency Comments

Department of Education and Department of Labor officials reviewed a draft of this report and provided oral comments. They generally agreed with the report's contents and suggested technical changes, which we made, as appropriate. We also provided drafts of the appendixes to each of the states and school districts we visited and incorporated their comments as appropriate.

We are sending copies of this report to appropriate House and Senate committees, the Secretaries of Education and Labor, and other interested parties.

Please call me on (202) 512-7014 if you or your staff have any questions. Other major contributors to this report are listed in appendix VII.

Linda G. Morra

Linda G. Morra
Director, Education
and Employment Issues

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Abbreviations

ACT	American College Testing
AIT	Agency for Instructional Technology
CAM	Certificate of Advanced Mastery
CIM	Certificate of Initial Mastery
CORD	Center for Occupational Research and Development
JTPA	Job Training Partnership Act
NASA	National Aeronautics and Space Administration
PENCIL	Public Education: Nashville Citizens Involved in Leadership
SAT	Scholastic Aptitude Test
SCANS	Secretary of Labor's Commission on Achieving Necessary Skills

Objectives, Scope, and Methodology

The aim of our work was to develop an overview of state progress on comprehensive school-to-work transition strategies and to identify possible federal policy actions in this area. To do this, we established the following study objectives:

- Identify the key components of a comprehensive school-to-work transition strategy.
- Determine how many states have formally adopted the components of a comprehensive school-to-work transition strategy and what they have done to implement them.
- Describe obstacles to planning and implementation faced by state and local officials in their comprehensive school-to-work transition strategies.
- Identify how the federal government could support the states in their efforts to develop comprehensive school-to-work transition initiatives.

To arrive at the key components of a comprehensive strategy, we reviewed the literature in the field of school-to-work transition, including reports of the Secretary of Labor's Commission on Achieving Necessary Skills (the SCANS Commission),[1] the National Center on Education and the Economy,[2] and the Southern Regional Education Board,[3] and prior GAO work.[4] We also consulted with numerous experts in the field.

To stay within the scope of our study, we restricted our identification of components to the substantive aspects of a comprehensive school-to-work transition strategy and did not focus on other factors that would be important to any educational strategy—namely, the need for adequate data collection and reporting for evaluating the success of the strategy. Furthermore, we did not examine the ability of the information systems of the states and school districts we visited to measure meaningful outcomes of comprehensive school-to-work transition strategies, such as the employment and earnings patterns of their high school graduates. Thus, we have no basis for judging the absolute nor comparative effectiveness of the states and school districts that have and have not adopted the strategies.

[1]What Work Requires of Schools: A SCANS Report for America 2000, U.S. Department of Labor, the Secretary's Commission on Achieving Necessary Skills (Washington, D.C.: 1991).

[2]National Center on Education and the Economy, Commission on the Skills of the American Workforce, America's Choice: High Skills or Low Wages! (Washington, D.C.: 1990).

[3]Gene Bottoms, et al., Making High Schools Work, Southern Regional Education Board (Atlanta: 1992).

[4]Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries (GAO/HRD-90-88, May 11, 1990).

To determine how many states have adopted at least the components of comprehensive strategies, we conducted a telephone survey of all 50 states and the District of Columbia, contacting in each state the offices of the governor and the chief school officer. Based upon the responses we received, follow-up material sent to us, and subsequent inquiries where appropriate, we identified four states that had formally adopted the components of a comprehensive strategy—Florida, Oregon, Tennessee, and Wisconsin.

We then visited those states and met with cognizant state government officials and business-labor members of state coordinating bodies (Oregon and Wisconsin) to determine how state officials are implementing the components and the obstacles they are facing. Officials in each state provided us with a description of relevant state laws; we did not verify their accuracy. In each state, we also visited the local school district that officials identified for us as the most advanced in its school-to-work transition efforts. These were Seminole County (Florida), Portland (Oregon), Metropolitan Nashville (Tennessee), and West Bend (Wisconsin). We also visited Rochester (New York), even though it was not in one of our case study states, because our expert consultants had identified it as having a specially funded, model comprehensive strategy. Our work in the districts involved contacts with district officials, school principals, and teachers. In some cases, we also met with business and labor representatives. In addition, state and school district representatives in each state and school district had the opportunity to review and provide comments to the appendix summarizing their respective jurisdictions.

Because our approach took us only to jurisdictions that had formally adopted all of the components of a comprehensive school-to-work transition strategy, we did not visit jurisdictions with one or more exemplary components but not all four components. Therefore, we would not have visited a jurisdiction that only had, for example, a model career education and development program (one of the components).

To identify obstacles encountered in planning comprehensive school-to-work transition strategies and options for federal action, we considered the views of the experts we consulted, the recommendations of various study groups, the opinions of the individuals we talked with in the four states and five local school districts we visited, and the results of prior GAO work.

Florida

Background

Florida officials realized in the mid-1980s that a gap existed between emerging job requirements and the ability of Florida's work force to meet them. For example, they estimated that, if the number of school drop-outs remained unchanged from its 1990 level, the cost to society would be at least $22 billion in lost revenue and increased costs for welfare, unemployment, and crime between 1991 and the year 2000. Concern about this led officials to adopt a comprehensive school-to-work transition strategy.

Goals of the School-to-Work Transition Strategy

Florida's school-to-work transition strategy incorporates two programs: career preparation and school improvement. According to a Florida official, the first, the "Blueprint for Career Preparation," is one of several work preparation programs and provides the framework for educators to prepare youth to successfully enter and remain in their chosen fields of work. First implemented as state policy in the 1988-89 school year, it supports student preparation for and articulation to workplaces, vocational-technical opportunities, and colleges or universities. Its main objectives include increasing students' academic performance, enhancing their self-esteem and career awareness, and improving their interpersonal and employability skills.

The second, "Blueprint 2000: A System of School Improvement and Accountability," referred to as "Blueprint 2000," was enacted in 1991. It intends to raise standards and decentralize the educational system by freeing school districts to design learning environments and experiences to better meet the needs of each child. Three of its goals are to graduate students from high school who (1) are prepared to enter the work force and postsecondary education; (2) can successfully compete at the highest levels nationally and internationally; and (3) are prepared to make well-reasoned, thoughtful, and healthy lifelong decisions.

Institutions Responsible for Implementing Strategy

Responsibility for implementing the school-to-work transition strategy rests with the Florida Department of Education. The Florida strategy is not administered by a work force development board, as in Oregon and Wisconsin, whose school-to-work transition strategies are part of formally coordinated work force development strategies.

The Florida Department of Education's responsibilities in both programs include providing technical assistance and training to any school district implementing them. The Florida Commission on Education Reform and

Accountability, established by "Blueprint 2000," is an advisory board created to oversee the development, establishment, implementation, and maintenance of the school improvement and accountability system.

Implementation Strategy

The "Blueprint for Career Preparation" proposes no major structural changes in the governance system, and its adoption by school districts is voluntary. Those school districts implementing the "Blueprint for Career Preparation" are encouraged to increase apprenticeship, career magnet and academy schools, and tech-prep programs and to develop strategies for using career and education planning systems. The Department of Education is to play a leadership role in implementing it, seeking legislation, expanding partnerships, and providing technical assistance.

The transition to the new system of school improvement and accountability under "Blueprint 2000" is projected to take place in steps. Schools must first develop needs assessments in 1992-93 and then submit school improvement plans to their school boards for approval. The plans are to be implemented in 1993-94, and the school boards must send reports on schools not making adequate progress to the state Department of Education along with renegotiated progress provisions in 1994-95. Then, the cycle starts again. The Department of Education will offer technical assistance to schools that need help. If a school shows no progress after 3 years, it is reported to the state Board of Education for action.

In addition, "Blueprint 2000" requires the Florida Commission on Education Reform and Accountability to randomly select schools for review. If a school should not meet the criteria established by the Commission, the Commission is to refer the district to the state Board of Education. The Board of Education can then request the state Office of the Auditor General to conduct a formal program audit of the school. The state Board of Education can use the results of this audit as additional information when determining appropriate action.

Components of the School-to-Work Transition Strategy

Processes to Provide and Demonstrate Good Academic and Occupational Competencies

To improve the academic skills of Florida high school graduates, in 1992 the Florida Board of Education approved student performance standards and statements of outcomes. The exit-level skills, knowledge, and values identified in the report by the U.S. Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS)[1] are to provide a framework for the standards that Florida will require of all its students. Through "SchoolYear 2000," a research and design initiative charged with considering new approaches to instructional delivery, Florida State University's Learning Systems Institute is instituting a process to verify the SCANS standards for Florida and set up an ongoing process to keep them current.

At the same time, the state Department of Education is systematically deleting low-level courses and adding higher level courses to the list of courses approved for graduation from high school. During this process, it is adding courses that use instructional methods involving the practical application of scientific and technical principles to help students who have difficulty with academic courses learn the content of the high school curriculum. State officials told us that developing these courses—Applied Math 1 and 2, applied communications, applied physics, and applied chemistry and biology--is paid in part with funds authorized by the Carl D. Perkins Vocational and Applied Technology Education Act (Perkins) and that their implementation by school districts is voluntary.

State officials told us that Florida has established a procedure for recognizing the high school work of the state's students for admission to colleges and universities. State law mandates that Florida community colleges admit all Florida public high school graduates. The Florida Board of Regents approves specific courses, such as those in applied academics. In addition, a 13-member statewide Articulation Coordination Committee adjudicates difficulties among the different sectors. This process can make it easier for students to switch career paths after finishing high school, should they choose to do so.

[1]What Work Requires of Schools: A SCANS Report for America 2000, pp. xvii-xviii.

Florida officials are trying to develop the assessment component of "Blueprint 2000" to comply with the school improvement and accountability legislation. They told us that no clear direction exists for the assessment of students under "Blueprint 2000" at this time. So far, the state has eliminated all standardized testing below the tenth grade but has left the tenth-grade tests in place. Florida has no formal system of testing employability skills. In what appears to be a first step in measuring students according to set performance standards, the state also requires that all students take criterion-referenced writing tests in the fourth, eighth, and tenth grades and a criterion-referenced graduation test in the eleventh grade to demonstrate their academic skills. Norm-referenced tests allow comparisons of individual or group performance against a national norm. Criterion-referenced tests, on the other hand, are directly linked to the curriculum and are meant to assist teaching and learning by showing student progress toward specific learning objectives.[2]

A unique feature of the Florida strategy is the Gold Seal Endorsement program, which rewards students who obtain technical skills relevant to today's workplace while mastering academic competencies that are prerequisites for higher education. School districts may award this endorsement to graduating seniors who have at least a 3.0 overall grade-point average and a 3.5 vocational grade-point average. The Gold Seal candidate must also complete a vocational job preparatory program, successfully pass a written and performance test of job skills, and demonstrate mastery of basic and employability skills. Students who meet these requirements are eligible to apply for a Gold Seal Scholarship of up to $2,000 per year for 4 years. This money may be used at any accredited postsecondary public or private community college, university, or technical school in the state.

Career Education and Development

In 1991-92, about 64 percent of all eighth graders completed career plans in the state. If the plan is followed, all eighth-grade students in participating schools will prepare a career plan after participating in self- and career-awareness programs in kindergarten through fifth grade, personal assessment and technological literacy in grade 6, and career orientation and exploration in grades 7 and 8. In grades 9 through 12, students are expected to engage in academic and specialized skill development, while in postsecondary education they are expected to pursue skill development and career advancement.

[2]Systemwide Education Reform: Federal Leadership Could Facilitate District-Level Efforts (GAO/HRD-93-97, Apr. 30, 1993), p. 9.

Links With Employer Community

In Florida, the role of employers in the school-to-work transition strategy is largely advisory. For example, business representatives provide feedback to school needs assessment committees, and employers participate on state vocational education boards in an advisory capacity. In addition, since 1988, Florida has conducted three employer opinion surveys to solicit employer feedback on the preparation of entry-level employees who are graduates of the state's vocational programs.

Workplace Exposure

State officials told us that Florida students participate in a variety of workplace experiences, such as cooperative education and internships. Twenty students participated in the state's initial youth apprenticeship site, sponsored in part by the electronics manufacturing company Siemens Stromberg-Carlson (Siemens) in Seminole County. A state official told us that high school students in youth apprenticeship programs are not allowed by law to participate in the federal workers' compensation program. He saw this as an obstacle to the implementation of a comprehensive school-to-work transition strategy.

Seminole County Public Schools

We visited three schools in Seminole County, Florida: Lyman High School and two schools whose students eventually go there, Altamonte Elementary School and Milwee Middle School.[3]

Processes to Provide and Demonstrate Good Academic and Occupational Competencies

School district officials told us that Lyman High School has a two-track system: tech-prep and college preparatory. To improve the academic skills of its high school graduates, the school has eliminated all general track courses from the curriculum—including five general math courses, some basic programming courses, and other basic academic courses. The school offers applied courses for students who have difficulty with the academic courses to improve the students' chance to succeed in school.

The high school's vocational-technical curriculum has been designed to coordinate with the health occupations, computer-assisted drafting, electronics, and auto mechanics courses, officials told us. In the fall of 1993, students from throughout the county will be able to start in a health academy high school for the first time. Students will be able to take community college courses and receive high school as well as college credit for them.

[3]Clusters of schools whose students move from certain elementary schools into the same middle school and then into the same high school, as do students in Altamonte, Milwee, and Lyman, are referred to as being part of a "feeder" system.

Efforts to make the school more relevant to career preparation have led to restructuring the school day into blocks of time longer than the traditional 50-minute class periods, thus removing, at least to some extent, the institutional rigidity of school scheduling practices that can be an obstacle to implementing comprehensive school-to-work transition strategies. School officials told us that interdisciplinary teaching and the use of more laboratory, hands-on, teaching makes longer class periods desirable. School officials indicated that they could restructure classes to allow students active participation in the course without spending additional money.

In addition to the tests mandated by the state mentioned above, Seminole County uses the eighth-grade Comprehensive Test of Basic Skills. In 1993-94, all Seminole County tenth graders in the county took the Florida Writing Assessment Test.

Career Education and Development

About 30 percent of Seminole County eighth-grade students completed the eighth-grade career plan in 1992-93, according to a school district official. To further help the students develop their 4-year plan for high school, the school district evaluates all eighth-grade students, assessing their intellectual skills, aptitudes, and interests. All eighth graders in the county took the Vocational Research Institute Interest Inventory and the Apticon Aptitude Test in the 1992-93 school year.

The philosophy at the elementary and middle schools is that career preparation is not a separate curriculum; rather, it should be worked into the regular curriculum. Officials told us that the teachers at Altamonte Elementary School and Milwee Middle School use a variety of ideas based on a plan developed by the Florida Department of Education for the "Blueprint for Career Preparation" and integrate the activities into their curricula in all grades—kindergarten through eighth grade. In addition, the schools have a variety of activities to expose students to careers, such as career days, interviewing and shadowing of professionals by students, simulations of business enterprise activities in the classroom, and three 12-week courses in each of three subjects.

Altamonte Elementary School, Milwee Middle School, and Lyman High School are part of a "feeder" structure, where students can advance from one school to the next. This provides the opportunity to follow a consistent career preparation plan that includes implementing, when students reach high school, the career plans they prepared in the eighth

grade. The districtwide career preparation program may be weakened in the future, according to local officials, by a budget cut that has reduced the position of career education director to half time, requiring that the director split her time between career education and language arts.

Links With Employer Community

Links with employers in the area have added diversity to Lyman High School's curriculum. Siemens has shown an unusual commitment to developing links with the local schools. It provides tutors and mentors, makes presentations at middle schools, goes to science fairs, and allows job shadowing of its employees by high school students. Because of its close proximity to the aerospace industry, the school has added space technology to its curriculum. The National Aeronautics and Space Administration (NASA) has "adopted" Lyman High School. NASA has selected the school two or three times to talk with astronauts while they are in space, and the school has the capability to track satellites with software.

Its proximity to Walt Disney World has provided the school the opportunity to offer animation and television production courses. These courses include material showing possible applications of classroom activities to both the aerospace and the entertainment industries.

Workplace Exposure

Lyman High School, Siemens, and another high school in the district collaborated on an electronic technician youth apprenticeship program for 20 students jointly financed by the U.S. Department of Labor and Siemens. After the students graduate, if they qualify, they will be admitted to the full apprenticeship program that Siemens runs in cooperation with Seminole Community College.

The Seminole County School District is planning further youth apprenticeships for 130 to 135 eleventh and twelfth graders for the 1993-94 school year in carpentry, fire sprinkler systems, electricity, and plumbing. Because businesses want students at the work site full time, the district will offer these apprenticeships in the summer—after students complete the eleventh and twelfth grades. The goal is to have students complete 1,000 hours of on-the-job training before they finish the twelfth grade or during the summer after graduation.

Oregon

Background

Oregon citizens from both the public and private sectors recognized in the late 1980s the need to build a superior work force, which they believed to be vital to an advanced economy providing high-paying jobs. According to the Chair of the Oregon Workforce Quality Council, the average per capita income had fallen in the past two decades from 10 percent above the national average to 8 percent below. Oregon's citizens believed that Oregon was moving toward a low-skills and low-wage economy. The decline in income in Oregon has lowered the living standards there. The state legislature saw restructuring the education system to improve the skills of graduates of Oregon's educational institutions and improving school-to-work transitions as two of several means of reversing these trends.

Goals of the School-to-Work Transition Strategy

In 1991, Oregon enacted a legislative package to help develop a work force equal to any in the nation by the year 2000 and equal to any in the world by the year 2010 and to help youth transition from school to work. The strategy follows the recommendations of America's Choice: High Skills or Low Wages![1] and officials expect to implement it over a 10-year period. Following are the four enabling legislative pieces as provided to us by Oregon officials:

- The Oregon Workforce Quality Act, which establishes the Oregon Workforce Quality Council, whose responsibilities include setting and monitoring work force development strategies.
- The Oregon Educational Act for the 21st Century, which restructures the state educational system to achieve, for all students in the state, educational standards of performance and outcomes that match the highest of any in the world. Educational restructuring activities under this act include (1) establishing the Certificates of Initial Mastery and Advanced Mastery as new high-performance standards for all students; (2) establishing alternative learning environments and services that offer opportunities for those experiencing difficulties in achieving the knowledge and skills necessary to obtain the Certificate of Initial Mastery; (3) establishing partnerships among business, labor, and the educational community to develop standards of academic and professional technical endorsements; and (4) providing on-the-job training and apprenticeships necessary to achieve those standards.
- The Workforce 2000 II Act, which establishes new programs for promoting education and job training for Oregon students and workers, including

[1]National Center on Education and the Economy, Commission on the Skills of the American Workforce, America's Choice: High Skills or Low Wages!, (Washington, D.C.: 1990), pp. 5-9.

creation of a model for reform of secondary vocational and technical education, training for professional technical training teachers, and reentry programs for senior workers.

- The Youth Apprenticeship Training Act, which establishes a youth apprenticeship training program for high school students and provides tax credits for participating employers.

Oregon voters recently approved a ballot measure that will be phased in over a number of years and will severely limit increases in property taxes. It is expected to severely constrain the amount of funds available for state programs. State officials told us that aspects of the new school-to-work transition initiative, such as the technical classes that are part of the students' preparation for the work world, are much more expensive to offer than traditional academic classes. The uncertainty of state funding, especially considering the likely increased costs of contemplated reforms, can present obstacles to implementing the state's comprehensive school-to-work transition strategy.

Institutions Responsible for Implementing Strategy

The Oregon Workforce Quality Council is responsible for overseeing the work force development activities in the state. By law, it has 21 members. Its membership represents the major stakeholders in the process, including private employers and workers. Of the 14 members appointed by the governor, 5 must represent business and 5 labor or community-based organizations; the remaining 4 must include a legislator, a local elected official, a local education representative, and a member of the general public. The members of the public sector include the governor or designee and the chief administrators of agencies responsible for the following areas: social services; elementary, secondary, and postsecondary education; job training and work force development; economic development; unemployment insurance; and corrections. The council has a sunset date of June 30, 1997.

Implementation Strategy

To begin to restructure Oregon's educational system, the state Superintendent of Public Instruction has established 10 task forces to explore ways to start restructuring the system and establish a school-to-work transition strategy in Oregon. They are on alternative learning environments, Certificate of Initial Mastery, Certificate of Advanced Mastery, employment of minors, extended school day/year, integration of social services, middle level, nongraded primary, school choice, and site-based decision-making. School districts and schools must

conduct self-evaluations every 2 years that must include a review of demographics, student performance, and student access to and utilization of educational opportunities and staff characteristics and involve the public in setting local goals.

Components of the School-to-Work Transition Strategy

Processes to Provide and Demonstrate Good Academic and Occupational Competencies

The new process to provide good academic skills for all students is getting under way. One of the task forces is identifying the outcomes and standards that students completing the tenth grade will be expected to master to pass the test to obtain the Certificate of Initial Mastery (CIM)—the credential that certifies that students have the knowledge and skills required for college preparatory and academic professional technical programs leading to the appropriate endorsement. So far, the task force has developed a curriculum framework and has identified 11 outcomes. The state Board of Education must periodically review and revise its common curriculum goals, including essential learning skills.

If, at any point, a student is not progressing satisfactorily toward attaining the standard at grades 3, 5, 8, and 10, the school district is to make additional services available to the student, such as a restructured school day, additional school days, individualized instruction, and family evaluation and social services.

The Oregon Department of Education has, to date, adopted six applied academics courses—including applied mathematics, applied manufacturing, and applied economics—to make it possible for students to learn portions of the high school curriculum using instructional methods that involve the practical application of scientific and technical principles. Applied academics courses are financed with state funds and with funds authorized by the federal Carl D. Perkins Vocational and Applied Technology Education Act.

Because the state has recognized that institutions of higher education have no consistent procedure for recognizing student high school work for admission to colleges and universities, the Board of Education and the Board of Higher Education meet regularly to address this issue jointly. The

governor has established the Joint Articulation Commission to foster cooperation and collaboration between secondary and higher education in this area. Such a process could make it easier for students to switch career paths after finishing high school, should they choose to do so.

Once the standards for the CIM are developed, the assessments for it will be performance based and benchmarked to mastery levels at approximately grades 3, 5, 8, and 10, including—but not limited to—work samples, tests, and portfolios. Students will be allowed to collect credentials for a period of years, culminating in a project or exhibition that demonstrates attainment of the required knowledge and skills. Tests for the Certificate of Advanced Mastery (CAM)—the high school exit credential—are mandated by law and are currently in the planning phase. Oregon is also a pilot site for the American College Testing Program work readiness test, "Work Keys." State officials told us that they are not sure how this test will fit into the CIM and CAM testing program.

Career Education and Development

Oregon has not yet systematically addressed this component of the school-to-work transition strategy. According to state officials, schools are re-examining the role of career education, teachers, and career guidance in the career development of students. For example, Oregon standards for public schools require that each student develop a 4-year high school plan based on his or her educational and career goals. The plan for each student must be reviewed and updated annually to reflect changing student needs and interests. However, state officials do not know the total number of schools or students participating in the process, since this planning, where it occurs, is conducted locally and information regarding its implementation is not collected at the state level. State officials expect that, once the process is fully implemented, career plans will relate to the CIM, the CAM, and the individual career pathways that will be available to students when the school-to-work transition strategy becomes fully implemented.

Links With Employer Community

In addition to the leadership and participation of high-level business people in the strategy role of the Workforce Quality Council's strategic planning, many members of private industry were among the more than 400 individuals who participated in formulating more specific school-to-work transition plans. Other links are programmatic rather than strategy driven at present. According to the Chair of the Workforce Quality Council, the Business Youth Exchange brings business people into the

schools, allows younger students to go into businesses to see and experience how businesses work, participates in academies, and promotes business persons' acting as tutors and mentors for students. A Hewlett-Packard official told us that this company plans to have 10 teacher interns this summer who will have the opportunity to work in scientific laboratories and business operations offices and will be paid for their work. The intern teachers are then expected to return to their schools and incorporate into their curricula concepts they have learned from their business experiences.

Workplace Exposure

Under the school-to-work transition strategy, the Workforce 2000 II Act will establish new programs for promoting education and job training for Oregon students and workers, and the Youth Apprenticeship Training Act will establish a youth apprenticeship training program for participating employers. A unique feature of the Oregon plan is that employers can receive a tax incentive of up to $2,500 to participate in the youth apprenticeship program. A business official who has been active in the development of the state school-to-work transition strategy speculated that the lack of such an incentive might be an obstacle to implementing comprehensive school-to-work transition strategies because it is difficult to convince many employers to offer workplace opportunities to youth.

According to state officials, the process of setting up work-based learning experiences is a state responsibility in Oregon and started in 1993. Youth apprenticeship sites are required to follow the written standards for registered apprenticeships as well as those set for high school youth. To make this possible, the state lowered the minimum age for participation to 16 and eliminated the requirement for a high school diploma as a prerequisite for participation, thus removing one obstacle to implementing a comprehensive school-to-work transition strategy. The Oregon Bureau of Labor and Industries—responsible for finding available sites—has identified 49 youth apprenticeship sites in a variety of occupations, including stagehand, logger, and emergency medical technician. The Oregon Department of Education—responsible for finding interested students—has found 17 students interested in filling these slots in the coming school year.

Pending state legislation would expand youth apprenticeships—also with written standards—beyond the registered apprenticeships. These will be approved through the regional work force quality committees rather than

being processed through the registered training agent and the joint apprenticeship training committees, as they are now.

Portland Public Schools

We visited the Roosevelt Renaissance 2000 Project at Roosevelt High School in the Portland Public Schools. This project began in 1989, before the passage of the state's school-to-work transition initiative.

Processes to Provide and Demonstrate Good Academic and Occupational Competencies

The first phase of the project was to define the problems Roosevelt High School faced. This was a joint effort by members of the Roosevelt administration and staff, the state Department of Career and Technical Education, and the state Bureau of Labor and Industries. Their efforts launched the project in March 1990. The second phase, starting in December 1990, brought together representatives from labor and industry, the Roosevelt teaching and administrative staff, the Bureau of Labor and Industries, the Portland Public School District, students, and parents.

School officials told us that all students—not just vocational-technical education students—can follow six career pathways offered at Roosevelt High School. Freshmen at Roosevelt can learn about all the possible pathways availabie to them and at the end of the year they must choose one of the pathways. According to the Roosevelt Renaissance 2000 coordinator, the school has gotten assistance and funding from Portland Community College and Oregon's Department of Career and Technical Education.

A school official said that four applied academics courses at Roosevelt High School have met with student acceptance: an applied economics course for all seniors, two applied mathematics courses—pre-algebra and geometry—and an applied biology/chemistry course. An applied academics course in communications has proved unsuccessful. The school obtained these courses as packages from either the Center for Occupational Research and Development (CORD) or the Agency for Instructional Technology (AIT). Universities in the state have recognized the applied economics and mathematics courses for admission to their institution. No institution has recognized the applied academics course in communications. Recognition of applied academics courses by postsecondary institutions may make it easier for students to switch career paths after finishing high school, should they choose to do so.

Although school officials do not expect to find measurable results for another 3 to 5 years, they plan to evaluate the program every year. They expect to write a new 5-year plan in 1994.

Career Education and Development

All students in the district have developed a career plan, but a school official commented that the process was rushed and, as a consequence, has not been helpful or meaningful for students. However, as part of the new freshman focus class at Roosevelt High School, all freshmen this past year used a computerized program relating aptitudes to career choices to help them select their career pathways. This information is included in the students' portfolios, which follow the students throughout their schooling.

All ninth-grade students at Roosevelt High School do a job "shadowing" experience of 1/2 day with someone in the work environment and take the freshman focus class. School district officials told us that the school will implement a career education curriculum for the sophomore class in the 1993-94 school year. Major components of this curriculum will include a course specific to the student's career focus and a second job shadowing experience.

Links With Employer Community

Local employers and Roosevelt High School teachers have been working together on a curriculum restructuring team since January 1991 using, according to school officials, total quality management practices. The Roosevelt Renaissance program has hired an individual who was formerly employed in the business world to establish links with the employer community that school officials and teachers typically lack. In this way the school has begun to overcome one of the obstacles to implementing a school-to-work transition strategy facing many schools. Some projects come to the teams through their business partnerships. Several federal and state agencies are also involved in the effort. According to school officials, all Roosevelt teachers have taken tours of local businesses, and 10 teachers from Roosevelt are serving summer internships with local businesses to familiarize themselves with the work world. They are selected from each of the different career pathways.

Workplace Exposure

State officials told us that Portland students participate in workplace experiences such as internships and cooperative education. In addition, school officials noted that job shadowing starts in the freshman year, entailing a one-time, 3-hour experience per year, per student. The plan is

to give more detailed work experiences to students in the future. A key objective of another new program, the freshman focus program, is to teach students how to set and achieve well-defined and realistic goals that are designed to prepare them for a work environment. The freshman focus program also helps freshmen develop positive self-esteem, enabling them to interact with adults, and thus be more likely to succeed in school and transition from school to work.

Tennessee

Background

According to Tennessee officials, Tennessee's effort to restructure education began in the late 1980s, when the public was expressing dissatisfaction with the state's economic development. Jobs for high school drop-outs were becoming scarce as Tennessee's manufacturing industries were changing from textile based to other types of manufacturing. Also, the auto manufacturers that were moving into the state complained about the quality of the work force, leading Tennessee officials to fear that the state would have difficulty attracting high-wage jobs in the future.

Goals of the School-to-Work Transition Strategy

Tennessee, in the 1990-92 period, approved two school-to-work transition documents: the "Goals and Objectives of the 21st Century Challenge Plan" and the Education Improvement Act. First, according to Tennessee officials, the governor prepared, and the Tennessee Legislative Oversight Committee on Education and the state Board of Education approved, in 1990, the "Goals and Objectives of the 21st Century Challenge Plan" (commonly referred to as the 21st Century Schools Program), whose overall aim is to establish, by the beginning of the 21st century, new schooling approaches to better prepare students for the new century. The 21st Century Schools Program calls for restructuring the high school curriculum to strengthen academic requirements for all students so that they exceed the national average and score in the top one-third of southeastern states by the 21st century. Then, in 1992, the Tennessee General Assembly passed and the governor approved legislation incorporating the basic elements of the 21st Century Schools Program into law.

The 21st Century Schools Program also calls for abolishing the general track curriculum, forcing students to choose between an academic and a vocational track by the end of the tenth grade. A Tennessee Department of Education official told us that the goal is for students in both tracks to be prepared for work, further training, or college. Those students planning to go to college will receive enhanced preparation for college-level work, and those in the vocational track will receive intensified preparation for jobs or postsecondary technical education so they can compete effectively in the job market or succeed in postsecondary technical education.

Institutions Responsible for Implementing Strategy

The school reform legislation authorizes the state Board of Education to set policy and adopt formulas to distribute kindergarten through twelfth-grade education appropriations. A Tennessee Department of

Education official told us that the Department of Education has overall responsibility for implementing the plan. The legislation does not set up a special work force development board—as in Oregon. That same official said that the Commissioner of Education is a member of the governor's cabinet, whose members are expected to collaborate and coordinate the activities of their agencies in the delivery of services to school-age children. The legislation requires performance contracts for all school principals.

Implementation Strategy

Tennessee's implementation strategy mandates an accountability system and changes the management, funding, and governance of its school systems. The strategy focuses on state and local outcomes rather than on procedures. To provide greater flexibility at the local level, the state Board of Education eliminated approximately 3,700 rules, regulations, and minimum standards. For example, a Department of Education official told us that the state Board of Education had a rule requiring all schools to teach 5 hours of math to all students each week. Now schools are allowed to vary the number of hours to accommodate students' individual needs. Also, the state Board of Education is allowing school districts to deviate from the standard 55-minute period of classroom time to a length more appropriate to helping students meet their needs. Eliminating the rigidity of school scheduling practices provides greater flexibility for decision-making at the local level. The implementation strategy now requires school districts to conduct needs assessments and update them annually, linking them closely with mandated 5-year plans. The strategy proposes school-based decision-making, gives teachers a part in formulating decisions that affect the classroom, and holds schools more accountable for results.

The state has issued two annual progress reports, one in 1991 and one in 1992, called Steps Toward Excellence, to help the public review the progress being made. Nevertheless, some obstacles exist. For example, how Tennessee's educational funding will be allocated is now in litigation, causing the state some uncertainty about its education funding formula. An obstacle restricting Tennessee from using federal funds for its school-to-work transition strategy, according to a Department of Education official, is the eligibility requirements of the Job Training Partnership Act. Tennessee uses some of these funds for its school-to-work transition program, but, according to the official, the eligibility requirements prohibit the state from providing programs to

some students who, officials believe, need and deserve to participate in them.

Components of the School-to-Work Transition Strategy

Processes to Provide and Demonstrate Good Academic and Occupational Competencies

Tennessee Department of Education officials told us that, to improve the academic skills of Tennessee high school graduates, all students are expected to learn the same skills through the tenth grade. At that point, students are expected to choose between a vocational and an academic track. The Tennessee Department of Education is assessing both vocational and academic courses for content quality and plans to eliminate the general track by phasing it out over several years.

The state is phasing in applied academics courses to help students who have difficulty with traditional academic approaches. So far it has developed six applied academics courses in collaboration with other state agencies and has implemented four—Math for Technology I and II, applied communications, and principles of technology. An official told us that funding for developing applied academics courses comes from both the Carl D. Perkins Vocational and Applied Technology Education Act funds and state money.

The Department of Education is attempting to get higher education institutions in the state to accept more applied courses for admission to enable students to meet admission requirements. Acording to a Department of Education official, Tennessee universities and colleges accept three of the approved courses for admission.

As planned, Tennessee's credentialing program will be rigorous. In 1993 all vocational students in the twelfth grade had to take the Work Keys test for the first time. This test measures workplace readiness and academic achievement. Some Tennessee businesses will invite students to include their Work Keys assessment scores with their job applications to document their work readiness. According to a Department of Education official, all students must pass the Tennessee Proficiency Test, which cannot be given before the spring of the ninth grade, as a requirement for a high school diploma. By July 1995, all graduating seniors must take the

American College Testing (ACT) assessment, the Scholastic Aptitude Test (SAT), or the Work Keys test. These tests no longer will be optional.

Career Education and Development

We found a variety of career education and development plans in Tennessee, rather than a single statewide approach. Ten school systems used state grants to develop career development programs in high schools and vocational centers. According to a Department of Education official, in 1993, eighth-grade students in some sites across the state used career planners that follow the Southern Regional Education Board model. This official told us that a program for guidance counselors is available and has been piloted in 27 schools. It will be offered to other schools this fall. It helps guidance counselors learn about career planners, career awareness, portfolios, and employment possibilities for students. The Tennessee Department of Employment Security has a school-to-work transition program to orient high school graduates to the workplace. The curriculum for employability skills and marketing was developed jointly by local employers and schools; the program is being used in 59 of the 95 counties in Tennessee. School year 1993 was the first time this program was provided to students other than twelfth graders.

Links With Employer Community

To help schools improve their performance and productivity, Tennessee has vocational advisory committees that include representatives from business and industry in all school districts across the state. In addition, about 80 percent of Tennessee school systems are involved in some form of organized school-business or school-community partnerships. For example, the Department of Education cosponsors a "Tennessee Business Week," when incoming high school juniors and seniors have the opportunity to spend a week on a university campus during the summer to learn about the free enterprise system and effective business principles.

Workplace Exposure

State officials told us that Tennessee students have the opportunity to participate in various workplace experiences. The Department of Education developed a youth apprenticeship model for students who enter the work force and for students who wish to continue their education, but, according to a Department of Education official, local education agencies have the flexibility to design and develop their own model. He said that the Department has selected seven sites to pilot this program.

Metropolitan Nashville Public Schools District

We visited the Glencliff and Maplewood Comprehensive High Schools and the Wright Middle School in the Metropolitan Nashville Public Schools district.

Processes to Provide and Demonstrate Good Academic and Occupational Competencies

The Metropolitan Nashville Public Schools district plans to eliminate the general track, and it will eliminate all general track courses when the state does, according to a Metropolitan Nashville Public Schools district official. Two of its schools—Glencliff and Maplewood Comprehensive High Schools—are pilot sites for eliminating the general track. Another official told us that they are now developing curricula to meet state competency standards.

The Metropolitan Nashville Public Schools district is one of six locations across the country participating in Equity 2000, an education reform project established by the College Board to enhance minority preparation in algebra and geometry. This 6-year project, ongoing at both Glencliff and Maplewood Comprehensive High Schools, is in its second year. It is a model of systemic change designed to be replicated nationwide.

The Metropolitan Nashville Public Schools district has four approved applied academics courses—principles of technology, applied communications, Math for Technology I, and Math for Technology II. The first two and the last are on the list of approved academic courses for admission to Tennessee's universities and 2-year colleges. Glencliff and Maplewood Comprehensive High Schools also teach diversified technology, and Glencliff has an additional course in applied biology and chemistry, according to a district official. Most of the money to fund development of these courses comes from local funds, but the school district uses Carl D. Perkins Vocational and Applied Technology Education Act money for supplies and equipment. Through its Diversified Technology Program, Maplewood Comprehensive High School allows vocational education students to demonstrate their knowledge and competencies by completing student projects. It has work stations for various subjects, such as robotics, research design, desk-top publishing, electronics, and aerospace technology, with the appropriate equipment to conduct these activities. Groups of students design and research their own projects, with an instructor as facilitator.

Although the legislation requires that all students take an exit exam by July 1995, a school district official told us that all vocational students in

the Metropolitan Nashville Public Schools district took the state-administered Work Keys exam in 1993.

Career Education and Development

Wright Middle School's seventh- and eighth-grade students learn applied academics by rotating every 9 weeks among various technical labs. A teacher explained that this exposes them to different occupational areas and helps them choose a high school course of study. The labs offer such subjects as robotics, applied physics, computer applications, graphic communications, and electronics. All parents of eighth-grade students receive an information packet on career choices by mail. However, no consistent assessment tool or aptitude survey exists for these students.

Other career education activities focus on youth at risk of dropping out. The Public Education: Nashville Citizens Involved in Leadership (PENCIL) organization—a not-for-profit organization formed to coordinate efforts by Nashville's business, education, and civic community—sponsors a Jobs for Tennessee's Graduates program for seniors who are most at risk of dropping out. The program runs for 18 months—the entire senior school year and the first 9 months after graduation. Following high school graduation, specialists assist graduates in finding jobs. Seniors are trained throughout the year in competencies that enhance their personal work traits and employability skills. They are exposed to work situations outside the school environment through participation in the school's Jobs for Tennessee's Graduates Career Association Club. According to a PENCIL official, this program was previously funded by the Job Training Partnership Act but is now a state program.

The Opportunity Awareness Program addresses the academic, social, and transitional needs of ninth-, tenth-, and eleventh-grade students who are potential high school drop-outs. The district offers the program at five sites in the district—four high schools and one middle school, including Maplewood and Glencliff Comprehensive High Schools—identified as ranking within the top 5 percent of schools with the highest drop-out rate in Middle Tennessee.

To help students who are at risk of dropping out, Maplewood Comprehensive High School officials told us that the school has an occupational child care class where teen mothers may take their preschool children and pay $5 per week. They can work in the child care class during their senior year and obtain one-half of a cooperative education credit while learning parenting skills. This program, jointly

funded by the Tennessee Department of Education and the Tennessee Department of Human Services, qualifies the young mothers for work in child care centers once they have finished high school.

Links With Employer Community

Project PENCIL's Adopt-a-School program has business partnerships with schools in the Metropolitan Nashville Public Schools district. Some schools have multiple partnerships. For example, Glencliff Comprehensive High School works with both Textron Aerostructures and Ford Motor Company. Textron spends money—according to Glencliff's needs—on projects involving both vocational and academic students, and the Ford Academy of Manufacturing Sciences teaches students about the industrial workplace.

Concerned about Nashville's economic development, the Nashville Area Chamber of Commerce set up a task force to look at new and existing industry and to help strengthen public education. A school district official told us that last year the Chamber surveyed close to 300 businesses about various economic and community development questions, including whether businesses would be willing to improve linkages with the schools. As a result, personnel of the Metropolitan Nashville Public Schools district interviewed more than 300 businesses this summer, asking them to participate in a variety of activities, such as job shadowing, a work exchange program for teachers, advisory committees, mentor and internship programs, tours and workshops for educators, and establishment of a basic skills program with the Metropolitan Nashville Public Schools district. The Metropolitan Nashville Public Schools district will provide the Work Keys assessments to these businesses so that they can validate competencies and correlate them with the skills required for entry-level positions.

Workplace Exposure

The Ford Motor Company, in partnership with Glencliff Comprehensive High School, developed the Ford Academy of Manufacturing Sciences, a program designed for eleventh- and twelfth-grade students who intend to pursue additional education after high school. The curriculum consists of four full semester courses about manufacturing and related techniques taught by specially trained teachers at Glencliff Comprehensive High School. The program offers a paid summer internship between the junior and senior years.

Wisconsin

Background

Wisconsin officials began to realize in the 1980s that the supply of skilled workers in the work force was shrinking while technical advances in business and manufacturing were demanding more highly skilled workers, according to a member of Wisconsin's Executive Cabinet for a Quality Workforce. A report on work force quality pointed out that many young people entering the job market were facing bleak prospects of acquiring full-time employment in positions paying enough to support an adult or family, offering job security and benefits, and providing opportunities for advancement. To solve these problems, Wisconsin developed its comprehensive school-to-work transition strategy to provide all students with educational program options that better prepare them for the work world.

Goals of the School-to-Work Transition Strategy

Wisconsin's school-to-work initiative, established in its 1991 budget legislation, is part of the state's strategy to develop a quality work force. Its goal is to provide all students with educational program options that will better prepare them for the work world. At the end of the tenth grade, Wisconsin students can select from college preparation, intended to prepare them to enter a postsecondary education program; tech-prep, to prepare them for one or two additional years of technical education; and/or youth apprenticeship, to prepare them for the labor force or an adult apprenticeship program. Both the tech-prep and the youth apprenticeship pathways have been designed to enable students who have chosen them to also pursue an associate or baccalaureate degree after finishing high school.

Institutions Responsible for Implementing Strategy

Wisconsin has set up a formal, state-level structure to ensure the cooperation of major stakeholders, including business and organized labor, in developing the state's work force. That coordinating body is the Executive Cabinet for a Quality Work Force—an ad hoc committee of cabinet-level officials and high-level representatives of Wisconsin's employers and labor unions. The governor appoints its members.

Individual agencies responsible for implementing the school-to-work transition strategy in Wisconsin are the Department of Public Instruction; the Department of Administration, including its Office of School-to-Work Transition; the (postsecondary) Department of Vocational, Technical, and Adult Education; the University of Wisconsin system; and the Department of Industry, Labor and Human Relations.

Implementation Strategy

The Office of School-to-Work Transition has the responsibility for coordinating the implementation of the school-to-work transition strategy. Any dispute between the different agencies charged with implementing the strategy is to be resolved by the governor or the secretary of the Department of Administration. The governor also established the Governor's Office of Workforce Excellence in the Department of Industry, Labor and Human Relations in January 1993. It is responsible for creating new youth apprenticeship programs, assisting in local implementation of these programs, administering state grants to establish career counseling centers, and offsetting employers' costs for supervising and training youth apprentices.

Components of the School-to-Work Transition Strategy

Processes to Provide and Demonstrate Good Academic and Occupational Competencies

The state's Department of Public Instruction publishes minimum standards for programs that school districts must provide but does not specify outcomes. The department has limited influence over the difficulty of the courses students take since, according to a state education official, the local school districts control the content of the courses they offer.

By January 1994, state officials expect applied technology programs in math, science, and communications to be available to help implement the tech-prep and youth apprenticeship pathways. They are intended as alternative instructional methodologies for students in the tech-prep and youth apprenticeship pathways. Funds authorized by the Carl D. Perkins Vocational and Applied Technology Education Act help pay for the development of these courses.

According to a state official, Wisconsin high school students taking applied academics courses have found acceptance to colleges somewhat difficult because these courses were not recognized as fulfilling academic requirements for admission. However, the University of Wisconsin system recently published a list of how the nationally developed courses of the Center for Occupational Research and Development (CORD) in applied math and applied technology could be used for admission purposes. In 1993-94, the University of Wisconsin system will be developing a competency-based approach to admissions that will be piloted in 1994-95.

These changes may make it easier for students to continue or switch career pathways after finishing high school.

Wisconsin's credentialing of student competencies is evolving. The state will require performance and portfolio measures for the first time at grades 4, 8, and 10 in language arts, mathematics, and science during the 1996-97 school year. Participation in the American College Testing (ACT) or the Scholastic Aptitude Test (SAT) for college-bound students will remain voluntary and at the student's expense.

Career Education and Development

Wisconsin's Education for Employment standard requires school districts to provide all students, throughout their educational career, access to classes and programs designed to prepare them for employment, further education, and citizenship. To improve youth's ability to make career decisions, a counseling panel was appointed to propose a statewide system of guidance and counseling support services for students in grades kindergarten through 12. The panel's November 1992 report urged the Executive Cabinet for a Quality Workforce to create the authority and funding mechanism for several proposals. One change, recently funded by the legislature, provides for establishing three pilot Career Resource Centers. All three would use state-of-the-art technology to provide labor market information, each within its own, distinctive, model. Officials expect that these career centers would be modeled after career centers in Germany, providing one-stop shopping to youth and adults, with at least one off school property.

Links With Employer Community

Wisconsin employers—either acting singly or through such organizations as Wisconsin Manufacturers and Commerce—have been a leading force behind the school-to-work transition initiative. As early as the 1970s, they advocated including an education and employment program as one of the state's minimum standards. The president of a manufacturing company and the president of Wisconsin Manufacturers and Commerce have been members of the Executive Cabinet for a Quality Workforce. Business leaders have also been instrumental in establishing consortia of schools and businesses intended to facilitate the process of employers teaching students about the business world.

Workplace Exposure

State officials told us that opportunities for students' exposure to the workplace include a variety of experiences, such as cooperative education

programs and job "shadowing." In addition, the state piloted a youth apprenticeship program during the 1992-93 school year that differed from existing work exposure programs because it provided technical instruction closely correlated with the workplace experience. The Wisconsin Department of Industry, Labor and Human Relations sponsored the development of an industry-related curriculum based on outcomes identified by industry. The program operated at two locations in the printing industry and served 18 students. A state official told us that, after completion of a 2-year apprenticeship program, a student will receive a high school diploma, a college transcript that indicates successful completion of certain college courses, and a certificate of occupational proficiency issued by the Department of Industry, Labor and Human Relations. This certificate indicates that the student has matched the standards of the youth apprenticeship program in the state.

The Department of Industry, Labor and Human Relations is working to reach an agreement with business that would guarantee higher entry-level pay for students who have completed a youth apprenticeship program and higher pay for academic achievement. Additional youth apprenticeship positions in the financial services industry are slotted for the 1993-94 school year. Officials were concerned that child labor laws would make implementation of youth apprenticeship at work sites difficult; but, according to a Department of Industry, Labor and Human Relations official, they researched the law and found that because the training was approved and supervised, children over 14 could participate at work sites.

West Bend Joint School District

We visited West Bend's two high schools—West Bend East High School and West Bend West High School—which are located in the same building and share some staff and common areas. According to school officials, the West Bend Joint School District Board approved its own strategic school-to-work/education transition plan in April 1992. Implementation of some components began during the 1992-93 school year, but many of the efforts are only in the planning stages.

Processes to Provide and Demonstrate Good Academic and Occupational Competencies

Under the plan, the school district expects to improve the academic skills of West Bend High Schools' students by developing and implementing an integrated curriculum in math, science, and technology disciplines at middle and high school levels; adapting or developing occupational and academic curricula for career clusters to meet the needs of students who

plan to enter a technical college or apprenticeship program; and developing and implementing a comprehensive tech-prep program.

West Bend High Schools provided one math and two English applied academics courses in the 1992-93 school year. In the 1993-94 school year, two more applied academics courses will be added—in science and social studies. The schools used both local school district funds and Perkins funds for developing applied academics courses. One applied academics teacher commented that a possible obstacle to the success and acceptance of a course in applied mathematics is the difficulty encountered in getting universities to recognize applied academics courses for student admission.

A team of English, math, and social studies teachers discussed how they are planning and presenting a course at the high school that integrates academic and vocational subjects. One teacher explained that credit for the integrated course is split between the academics involved. For example, business writing provides one credit for English and one-half credit for business education. However, teachers expressed difficulty finding adequate time to plan such a curriculum. This could be an obstacle to expanding the integrated instructional approach beyond this pilot project.

West Bend High Schools is planning reorganization of instruction to occupational clusters. These occupational clusters are projected to be fully implemented in the 1994-95 school year. According to school officials, students will be able to select one of five clusters—earth ecology and environment, engineering/industrial technology, arts and communication, human services, or business systems—including students at all levels of achievement. Teachers and the curriculum they teach would be organized around the clusters' subjects. The college and work-oriented pathways contemplated in the Wisconsin school-to-work transition legislation will be offered within the career clusters. The school district is also developing a diploma endorsement program intended to validate employability skills. It would enable students to demonstrate their skills and competencies.

Career Education and Development

The district's school-to-work/education transition plan calls for expanding and refining the kindergarten to grade 12 career guidance program. In the 1992-93 school year, almost 95 percent of West Bend High Schools' ninth-grade students completed a career plan to help them organize their educational plans and future. Once the school is organized into clusters,

the staff of each cluster is to share responsibility for the career counseling of students in its cluster and for maintaining individual folders that include the students' career choices.

During the 1992-93 school year, West Bend High Schools brought in various social service agencies to provide counseling on personal and social problems, freeing up some time of the regular, in-school guidance counselors for student career guidance. School officials indicated that they would like to continue this practice in the future.

Links With Employer Community

The school-to-work/education transition plan proposes providing a constant system of interaction between schools and businesses to improve understanding and awareness of the relationship between classroom instruction and applications in the business world. The establishment of the printing apprenticeship program in West Bend stemmed from the initiative of a printing business chief executive officer. It has required close collaboration between the school officials and the employer, and both stated that they plan to continue this relationship and make necessary adjustments to improve the program next school year.

An Adopt-a-School program also is functioning, according to a local Chamber of Commerce official. It pairs each school with three to five businesses to improve students' understanding of how academics relate to applications in the business world. Activities with the high school include employees teaching some classes, teachers spending time at and touring businesses, a business sponsoring a class trip, and mentoring of students.

Workplace Exposure

During the 1992-93 school year, West Bend High Schools students had the opportunity to participate in programs that, according to a school official, allowed students to work at work sites but did not provide the intense technical training typically provided in youth apprenticeships. In addition, West Bend High Schools were one of two sites in the state that had a youth apprenticeship program during the 1992-93 school year. Officials reported that 11 youths were involved in a printing apprenticeship program that is in the pilot stage.

Instruction in academic subjects is strongly related to the students' experiences in the industry. Students in the program take high school tech-prep applied academics courses for 3 hours each day. They then travel to the printing plant, where they take a technical college course in

printing and apply classroom knowledge to work applications by working directly with a mentor. They rotate through designated stations in the company to acquire experience in all aspects of the printing industry. Students from this program will be able to go directly to work, into a 1- or 2-year technical college program, or to a 4-year university program. In future years, students will take a prerequisite course about the industry to prepare them for the apprenticeship.

Rochester, New York

Background

In the mid-1980s, the Rochester business community recognized that its education system was part of a growing community crisis and that its competitive position was in jeopardy. In 1988, the governor of the state and Rochester business leaders invited the National Center on Education and the Economy to move to Rochester to establish a program to help the Rochester City School District become a laboratory for the state and the nation as it restructured its operations to produce much higher levels of student performance.

In March 1991, the National Center formed the School-to-Work Transition Task Force, a group of 35 individuals representing 26 business, labor, and other organizations from the Rochester Community. The Task Force submitted a proposal to the Rochester City School Board for establishing a 10-year plan to improve the way the city schools prepare students for the work world. This proposal, the Rochester "School-to-Work Transition Initiative," is an outgrowth of the National Center's 1990 work on America's Choice: High Skills or Low Wages! and its 1990 Rochester, New York report, High Expectations: What Students Should Know and Be Able to Do. Both reports decried the lack of a school-to-work transition system and young adults' lack of work readiness, including academic and technical skills.

As part of its efforts to restructure the city's schools, in 1990, the National Center led efforts to create the National Alliance for Restructuring Education, a consortium of states and school districts striving to restructure schools in their jurisdictions. In 1992, the National Alliance received a grant from the New American Schools Development Corporation to establish "break-the-mold" schools in seven locations across the country, including Rochester. It has multiple partners in this effort. The National Alliance is collaborating in the design of a new student performance system with the University of Pittsburgh in the "New Standards Project"—a new student performance assessment system.

Rochester City School District

We visited four of the six Community Alliance Schools in the Rochester City School District: the Westside Early Childhood Magnet Center and the James P.B. Duffy School (elementary schools), the Thomas Jefferson Middle School, and Benjamin Franklin High School. According to an official from the National Center, the school superintendent designated them as Community Alliance Schools when he selected them to begin implementing various initiatives under the National Alliance for Restructuring Education grant, according to a Rochester official. An

official told us that, although the Rochester School-to-Work Transition Initiative is a districtwide initiative, it focuses primarily on these schools.

Goals of the School-to-Work Transition Initiative

The School-to-Work Transition Initiative is designed to improve all students' transition from school into the workplace and to additional education and training. It seeks to prepare youth to identify a career direction while in high school and begin to pursue additional education and technical training required for success in that career. The Rochester City School District's Board of Education approved the School-to-Work Transition Initiative in 1991 and officially adopted it as policy in April 1993. The school board expects all students, regardless of socioeconomic status or career choice, to master academic and work standards that are benchmarked to the best in the world.

Institutions Responsible for Implementation

The Rochester School-to-Work Transition Initiative involves the active participation of a large and varied number of school district, community, and national resources of all kinds—such as money, people, and in-kind donations. The school district's Department of Workforce Preparation, which includes the Office of School-to-Work Transition, is responsible for overseeing and implementing the school-to-work transition strategy, as well as integrating it with other district initiatives. An official from the National Center told us that the Rochester Business Education Alliance, a consortium of Rochester's major employers that was formed to look at the role of business in Rochester, intends to provide technical support to and work with the school district and the employer community on implementing a school-to-work transition system; defining outcomes, standards, and measures; and applying high-performance work concepts and practices to education.

Implementation Strategy

During the 1992-94 school years, the district plans to inventory existing school-to-work transition programs, undertake pilot programs to implement the initiative, and continuously update its strategic plan. The School-to-Work Transition Initiative will provide work-based learning experiences for high school students; expand the Youth Apprenticeship Program; implement kindergarten through grade 3 junior achievement; expand the "School is Work" Program, a kindergarten through grade 12 classroom-based program for teachers to develop ways of using the classroom to teach work awareness to students; and create a partnership resource handbook. Implementing the plan corresponds to completing the

action steps specified in the School-to-Work Transition Initiative, which links to and relies on other strategies under way in the school district.

Components of the School-to-Work Transition Strategy

Processes to Provide and Demonstrate Good Academic and Occupational Competencies

To improve the academic skills of its high school students, the school district has eliminated 10 percent of its general track courses, is placing more students in higher level college preparatory courses, and is adding tech-prep pilot programs. No plans exist for eliminating all general track courses.

The school district has produced a curriculum framework—"Goals, Outcomes, Measures and Standards: An Introduction"—which sets competency goals and outcomes for students. It defines what students should know and be able to do and value. So far this is a working document, but future work includes developing curricular, instructional, and professional development strategies and creating measures of student progress. It includes a section on school-to-work transition. Some of the goals are critical and creative thinking; learning, managing change, and communicating; gaining knowledge of the disciplines; problem-solving, decision-making, and planning; and skills for social and personal well-being. Students will be expected to select a career direction at the end of their sophomore year and to participate in technical training if they so choose. Because New York state is in the process of revising the curriculum and testing at the state level, according to a Rochester official, the Goals Initiative assessments will have to be written to coincide with state tests.

Three high schools in the school district each offer three applied academics courses—home economics, technology, and business/marketing. The courses are approved by both the state and the school district for graduation and at state universities and colleges for admission. In Benjamin Franklin High School's Communication Arts Magnet and Bioscience and Health Careers Academy programs, students learn writing, math, and science courses in a way that applies the information to their chosen fields. All students—not just

vocational-technical students—participate in the program, officials told us. Applied academics courses are almost entirely locally funded.

The tech-prep program in Rochester will be a step towards the different career pathways the school district plans to develop, leading from the eighth grade or earlier through postsecondary degrees. As a step to improve students' academic skills, at the time of our review, Monroe Community College was in the process of developing a way to let the high schools know how many day students have entered the college with deficiencies requiring remedial training. This will help Rochester City Schools improve their programs and help students systematically progress between secondary and postsecondary educational institutions in an orderly manner.

According to a community college official, to help Rochester high school graduates follow the educational paths required by their chosen career paths, Monroe Community College is using a Carl D. Perkins Vocational and Applied Technology Education Act grant to set desired outcomes and sequences of courses now for tech-prep programs. The college will develop the courses once it has determined the desired outcomes. It anticipates the first group of eleventh graders to enroll in one of three tech-prep programs in the fall of 1993 and enter the college in the fall of 1995. Benjamin Franklin High School has finished planning a pilot tech-prep program in financial services and allied health and nursing with the college that will begin in the fall of 1993.

Career Education and Development

According to a Rochester City School District official, the School-to-Work Transition Task Force recently formed a Career and Personal Development Subcommittee to develop a comprehensive career guidance plan for the district as part of the curriculum framework, "Goals, Outcomes, Measures and Standards." During the 1992-93 school year, every eighth-grade student in the district completed a High School Educational Plan, working with counselors to plan their next 4 or more years of education.

As part of a school district goal to help all students succeed, the Thomas Jefferson Middle School—a school with more than 40 percent of its students at risk of dropping out—has several programs to promote career development and reduce the number of drop-outs. For example, a school official told us that, during the 1992-93 school year, half the school's students participated in a career exploration program that helps students

understand career planning and encourages them to begin planning careers in a logical way. The district hopes to involve all students next year. Also, speakers from local employers give presentations to students in the school.

Links With Employer Community

Rochester's business community has taken an active leadership role in establishing strong, coordinated ties with the city school district that are now directed towards meeting the district's strategic goals. An official from the National Center told us that the Office of School-to-Work Transition is producing an inventory of all the programs involving employer links, including partnerships between schools and industry, mentoring and job shadowing programs, and scholarship programs in the Rochester City School District. Also, at the time of our review, an official from a local employers' association told us that only large companies see the need for school-to-work transition, so Rochester needs to educate small companies about the long-term benefits of participating in school-to-work transition programs. Highlighted below are a few of the school district's links with employers.

The Rochester Business Education Alliance works with the National Center on Education and the Economy to raise businesses' understanding and awareness of education's growing and changing needs. The Industrial Management Council, an association of about 300 companies, is helping the school board select school-to-work programs. It sponsors a career education program that has courses and 6-week internships for teachers in various companies. It also has a program to interest minority students in science and math, in which the Council estimates that more than 1,000 students have participated.

According to a Kodak official, the Eastman Kodak Company, headquartered in Rochester, has committed its total quality management internal consultants to work with Rochester City School District management. Kodak's 21st Century Learning Challenge—a 10-year commitment to schools in Kodak manufacturing communities nationwide—is integrated with the school district's School-to-Work Transition Initiative. Kodak employees lend their scientific expertise in several areas of kindergarten through twelfth-grade instruction—mainly, math, science, and technology. Currently, Kodak volunteers work with 25 Rochester schools. Kodak also collaborates with other companies and participates in the Business Education Alliance and the School-to-Work Transition Task Force.

Wegman Food Markets, Inc., the largest local supermarket chain, has developed the Work Scholarship Connection Program. It provides "youth advocates" to help eighth-grade students from the Thomas Jefferson Middle School stay in school, graduate, and learn job readiness skills. It coordinates part-time job placement for the students at Wegman and other local employers and provides adult support. Participants who complete high school receive college tuition assistance. In addition, the Xerox Corporation recently began a work-scholarship program for 40 students at Franklin High School that follows the Wegman model design.

Apple Computer's partnership with Thomas Jefferson Middle School teaches workplace competencies, especially in the schools' career exploration program and school-to-work transition projects.

According to a school official, Rochester General Hospital currently has students from the Rochester City School District participating in career education and preparation and in various jobs. The hospital, in conjunction with Benjamin Franklin High School staff, provides job shadowing experiences to ninth graders, case studies in medicine for tenth graders, orientation to the work world for eleventh graders, and work experience for twelfth graders. The hospital has shadowing programs and a mentoring program for about 25 participants.

The Junior Achievement of Rochester program helps kindergarten through sixth-grade students better understand the relationship between what they learn in school and their participation in the economy. Fifty classes are implementing this curriculum in grades 1, 2, and 3. The Junior Achievement's Economics of Staying in School is a career development curriculum in which private industry personnel come into the schools and work with students. Business consultants are teaching classes in the middle schools.

Workplace Exposure

The Rochester initiative includes developing a process to ensure that all students have work experiences. Due to the close links between schools and the employer community, Rochester students have opportunities to participate in workplace experiences such as cooperative education and student internships and more are planned. In addition, the National Center and the school district issued a youth apprenticeship model in January 1993, and, according to a Rochester official, as of May 1993, the district has five students participating in youth apprenticeships in manufacturing at Eastman Kodak. It plans to have 25 students

participating in health career youth apprenticeships next year. Also, Rochester General Hospital has programs for students in various grades under the Bioscience and Health Career Academy at Benjamin Franklin High School.

Major Contributors to This Report

Human Resources Division, Washington, D.C.	James L. Kirkman, Associate Director, (202) 512-7224 Sigurd R. Nilsen, Assistant Director Noemi Friedlander, Evaluator-in-Charge
Boston Regional Office	Carol L. Patey, Regional Assignment Manager Joseph G. Evans, Evaluator Diana Gilman, Evaluator

Related GAO Products

Vocational Education: Status in 2-Year Colleges in 1990-91 and Early Signs of Change (GAO/HRD-93-89, Aug. 16, 1993).

Vocational Education: Status in School Year 1990-91 and Early Signs of Change at Secondary Level (GAO/HRD-93-71, Jul. 13, 1993).

Skill Standards: Experience in Certification Systems Shows Industry Involvement to Be Key (GAO/HRD-93-90, May 18, 1993).

Systemwide Education Reform: Federal Leadership Could Facilitate District-Level Efforts (GAO/HRD-93-97, Apr. 30, 1993; GAO/T-HRD-93-20, May 4, 1993).

Correspondence on Multiple Employment and Training Programs (GAO/HRD-92-39R, Jul. 24, 1992).

Apprenticeship Training: Administration, Use, and Equal Opportunity (GAO/HRD-92-43, Mar. 4, 1992).

Transition From School to Work: Linking Education and Worksite Training (GAO/HRD-91-105, Aug. 2, 1991).

Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries (GAO/HRD-90-88, May 11, 1990).

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